## **REMARKS**

Favorable reconsideration is respectfully requested.

The claims are 1 to 3.

The above amendment is responsive to points set forth in the Official Action.

With regard to the rejection of claim 1 in the use of the term "element polymer product", it is clear that what is intended is a polymer product including a trace element. Nevertheless, to eliminate this issue, the term "element" has been deleted from "element polymer product".

With regard to claim 3, the rejection states that the structure depicted in Figure 4 is disclosed to be a honeycomb structure but does not appear to have the structure of a normal honeycomb.

In reply, the term "honeycomb" broadly includes something resembling a honeycomb in structure or appearance. For example, a building facade having a multicellular pattern of repeated units or a weave with raised squares is included in the definition of the term "honeycomb" as set forth in Webster's Third New International Dictionary, page 1086 (1971), copy enclosed.

If the Examiner is of the opinion that the term "honeycomb like" is preferable, Applicant is agreeable to employing it.

Claims 1 to 3 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 11-123076 in view of Japanese Patents 6-207071 and 2-131578 and 5-76365.

This rejection is respectfully traversed.

A brief discussion of the present invention will be of assistance in appreciating Applicant's reasons for traversal of the rejection.

The present invention is directed to "a bacteria growth carrier including a trace element". The carrier features a polymer product obtained by including a trace element or the trace element and an inorganic nutrient salt for growth of bacteria in a synthetic or natural polymeric material. The polymeric material is sandwiched between layers of inorganic porous material.

Thus, the present invention is characterized by the fact that the inorganic porous material is on both the outer side and inner side of the polymer product and that said polymer product is not intermingled with the porous material (please refer to claim 1, "Detailed description of the invention" in page 4, "Example" on page 10, Fig. 1, etc.).

Thus, the present invention has the characteristic features that:

- a. the inorganic porous material is on both the outside and inner side of the element polymer product and
- b. the polymer product is obtained by including a trace element or the trace element and an inorganic nutrient salt for growth of bacteria.

According to these two features, the outstanding effects include that inside the carrier, a high concentration of trace element and inorganic nutrient salt required for growth of bacteria is present, the surface is made to carry out movement from the inside of the carrier by diffusion, these substances are supplied to bacteria which inhabit the surface, and when bacteria take these in, the growth is continued, and the high-density state of bacteria become maintainable. These effects have been realized for the first time by the present invention.

Such characteristic feature is disclosed or suggested by none of the cited references, alone or combined as follows:

JP 11-123076 discloses a carrier for treatment of organisms including an inorganic, organic or inorganic/organic material preferably having a porous structure containing an adsorptive material and a material for promoting physiological activity in microorganisms. Said material for promoting physiological activity is not suggestive of the presently recited polymeric material sandwiched between layers of porous material.

JP 6-207071 discloses a gelling material useful as a carrier for microorganisms but again, it is not sandwiched between porous layers.

JP 2-131578 discloses a carrier for immobilization of microorganisms which comprises a sheet form product or a three dimensional structure composed of inorganic fiber as the main component. The three dimensional structure can be a honeycomb structure. The presently recited sandwich structure is nowhere disclosed or suggested.

JP 5-76365 discloses a carrier for immobilization of microorganisms in which porous ceramic granules are deposited around thermally plasticized polymer granules.

None of these materials is remotely suggestive of the presently recited polymeric material containing trace elements, sandwiched between porous layers.

For the foregoing reasons, the rejection on prior art is untenable.

No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

THE COMMISSIONER IS AUTHORIZED TO CHARGE ANY DEFICIENCY IN THE FEES FOR THIS PAPER TO DEPOSIT ACCOUNT NO. 23-0975

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used for sharpening 2: a tool for enlarging holes to precise tolerances and controlling finishes esp. of internal cylindrical surfaces by means of a mechanically rotated and expanded abrasive 3: a drag for dressing and smoothing a road surface (as gravel)

\*\*Phone \"\" vi -eD/-ING/-s 1: to sharpen with or as if with a hone: wher (learned to ~ and strop his razor correctly—G.S.Perry) (honed his antlers sharp as knives—D.C.Peattie) (the Yankee character was homed sharp right here —Bernard DeVoto) 2: to enlarge or smooth with a hone (cylinder bodies are bored and then honed to a mirror finish—Mechanical Engineering) (the walls of the vestibule are lined with honed pink stone from Mankato—Amer. Guide Series: Minn.)

\*\*Hone of the stone from Mankato—Amer. Guide Series: Minn.)

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\*\*IDITIES\*\* (\*) \*\*BUJ': INDITIES\*\* (\*) \*\*LINESTLY\*\* (I have ever found thee ~ true —Shak.) (~ I won't tell) — often used intensively in hyphened combination with to and an object (knowing I was honest-to-goodness off and away —Helen Eustis) honest Injun adv. usu cap I: on my word of honor: HONESTLY hon-est-1y adv [ME, fr, 'honest + -ly]: in an honest manner: with honesty — the figure of the honest honest ness n = to [ME honesthes, fr. 'honest + -nes -ness]: the quality or state of being honest honestone \\'\ell', \n' n : a stone suitable for making hones for

slightly redder than yellowstone - called also middle stone

slightly redder than yellowstone — called also measure stone 7: HONEY LOCUST Phoney \"\ vb hon-eyed also hon-led \-n\(\text{-nid\}\) honeyed also honies; [ME honien, fr. hony, n.] vt 1: to sweeten with or as if with honey 2 a: to call one "honey" as a term of endearment (their husbands were ~ing. .. them all the time —Thomas Hart) b: to speak ingratiatingly to: FLATTER (the station master ... ~ed him up the steps of the last coach —Thomas Wood f1950) ~ vi 1: to use blandishments or cajolery — often used with up (by ~ing up to his landlady got his socks darned and his buttons sewn on) 2: to be flattering or obsequious: FAWN (rough to common men but ~ing at the whisper of a lord —Alfred Tennyson)

sewn on) 2: to be liattering or obsequences at a common men but wing at the whisper of a lord—Alfred Tennyson)

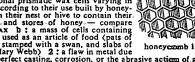
noney ' adj hont-i-er \-nēa(r), -nia-\ hont-i-esst \-nēast, -nia-\ adj [ME hony, fr. hony, n.] 1: of or relating to honey or its production (~ cake) 2 a: resembling honey (as in color or sweetness) (among the walking shoes is one of ~ or black alligator —New Yorker) (the ~ peace in old peems—Robin-son Jeffers) b archale: 15eAR (my good sweet ~ lord—Shak.) honey agaric n: HONEY MUSHROOM honey and n: any of various ants some of whose workers serve as receptacles for the storage of honey which they are able to regurgitate from their greatly distended abdomens when it is needed to feed other members of the colony honey badger n: RATEL honey bag n: HONEY SAC.
honeyballs \( '=s, e n p i : auttonnbush honey baim n: a sweet-scented mint (Melittis mellssophyllum) of central and southern Europe honey bear n 1: KINKAJOU 2: SLOTH BEAR honey-producing



honeybees: 1 queen, 2 drone, 3 worker

bees of Apis and related genera; esp: a native European bee (Apis mellifera) that is kept for its honey and wax in most parts of the world, has developed into several races differing in size, color, disposition, and productivity, and has escaped to the wild wherever suitable conditions prevail — compane BLACK BEE, CARNIOLAN BEE, DRONE, HONEYCOMB, ITALIAN BEE, QUEEN BEE, WORKER

BEE, CARNIOLAN BEE, DRONE, HONEYCOMB, ITALIAN BEEF, QUEEN BEEF, WORKER
honey belige n: DORADO 2
honey belin: an African shrub (Mahernia verticilladia) of the family Sterculiaceae having sweet honey-yellow flowers and used as an ornamental hon-ey-berry \('s' -- see BERRY\\ n 1: the fruit off either of two trees having sweetish berries: a: an Old World hackberry (Celtis australis) b: GENIP 2 2: a tree that bears honey-berries.



two trees having sweetish berries: a: an Old Warld hackberry (Celtis australis) b: GENIP 2 2: a tree that bears honeyberries
honeybind also honeybine \(\frac{1}{2} = \infty = \infty \) n: WOODBINE 1
honey bird n 1: HONEY GUIDE 2: HONEY EATER
honeybloom \(\frac{1}{2} = \infty \) n, Brit: GOOSEBERRY
honey-blonde \(\frac{1}{2} = \infty \) at BIT : GOOSEBERRY
honeybloom \(\frac{1}{2} = \infty \) n, Brit: GOOSEBERRY
honeybloom \(\frac{1}{2} = \infty \) n; HONEY 2a
honeybloom \(\frac{1}{2} = \infty \) n; SPREADING DOGBANE
honey brizzard n: a European hawk (Pernis apivorus) related
to the kites and feeding on insects and small reptiles and often
tearing up nests of wasps and bumblebees to eat their larvae—
called also honey kite
honey clover n 1: white sweet clover 2: Kura clover
honeycomb \(\frac{1}{2} = \infty \) n, often attrib [ME honycomb, fr. OE
hunigcamb, fr. hunig honey + camb comb
—more at 'HONEY. COMB] 1 a: a mass of
hexagonal prismatic wax cells varying in
size according to their use built by honeybees in their nest or hive to contain their
brood. and stores of honey—compare
BEESWAX b: a mass of cells containing
honey used as an article of food (pats of
butter stamped with a swan, and slabs of
—Mary Webb) 2: a flaw in metal due
to imperfect casting, corrosion, or the abrasive actiom of gunpowder (a scratch or spot of ~ in the grooves remders the
rifle completely useless for match-shooting—W.W.Greener)
3 a; something that resembles a honeycomb in structure or
appearance (a ~ or pigenniones stuffed with old Effers—
Berton Rouechb', (a ~ of dark, roofed-in arcades—Mollie
Panter-Downes) (is experimenting with metal ~ made of
stainless steel—Reid Hale) (a red ~ of fire burning flar into a
great pine root—Eve Langley); specif: a building flamade having a multiceloluar pattern of resed Stagners, oblongs, or
diamonds with indented centers formed by long floats (2): a
reversible fabric of this weave made usu, of cotton or wool and
used for clothing or towels—called also walle cloth c or
honeycomb stomach in a

and small insects from flowers — called also honeysucker, see BELLBIRD, FLYING COACHMAN, FRIARBIRD, STITCHBIRD, WATTLE-BIRD; Compare HoneyCREEPER hon-eyed also hon-ied \-nēd,-nid\ ad] [ME honled, fr. past part, of honien to honey] : sweetened with or as if with honey (stilling the ~ air —Walter de la Mare) (many a wily roque beguiles with ~ tongue — Peggy Bennett) — hon-eyed-ly adv — hon-eyed-ness n · es honey flow \(\frac{1}{2}\) noney extractor n : extractor le honeyflow \(\frac{1}{2}\) noney extractor n : extractor le honeyflow \(\frac{1}{2}\) noney extractor n : extractor le honeyflow \(\frac{1}{2}\) noneyflow \(\frac{1}{2}\) \(\frac{1}{2}\) no etal suitable for bees to convert into honey (some swarming was evident . . . due to the heavy — Canadian Bee Jour.) (the ~ . . . began during the latter part of June — Western Canada Beekeeper)
honeyflower \(\frac{1}{2}\) -\(\frac{1}{2}\) n' any of several flowers yielding nectar copiously: as a : a plant of the genus Malianthus b : either of two Australian shrubs (Protea mellifera or the related Lambertia Jormosa) (c : BEE ORCHIS d : a sweet sultan (Centaurea moschata)
honeyflower family n : MELIANTHACEAE
hon-ey-flu-gle \-\frac{1}{2}\) honeyflower family n : MELIANTHACEAE
hon-ey-flu-gle \-\frac{1}{2}\) honeyflower family n : MELIANTHACEAE
hon-ey-flu-gle \-\frac{1}{2}\) honeyflu-gle \-\frac{1}{2}\) for hon-ey-flu-gle \-\frac{1}{2}\) for hon-ey-flu-

these; shots finds Foliation and also noney against honeymyttle \('\sin\_{s,s'}\) n; an Australian tree of the genus Melaleuca
Melaleuca
honey of rose pharmacy; a mixture of fluid extract of rose and purified honey
honey palm n; coquitto Palm
honey plant n; any of numerous flowering plants that furnish nectar suitable for the making of honey by insects; specif; a plant of the genus Hoya
honeypod \('\sin\_{s,s'}\) n 1: MESQUITE ia 2; a pod of a mesquite
honey possum or honey mouse n; a small chestnut-brown long-muzzled phalanger (Tarsipes spencerae) of southwestern
Australia that feeds upon nectar and small insects
honeypot \('\sin\_{s,s'}\) n [ME hony pot, fr. hony honey + pot] 1; a
receptacle for honey: a : one of the isolated waxen vessels
constructed by some wild bees b; a glass or crockery container for table use (carly blown \(\sin\_{s,s'}\) or imposts have
high lids, deep rims, and solid finials \(-\text{CW}\). Drepperdy
2 honeypots \(p\); a game in which a child (called the honeypof)
with his hands clasped under his hams is swung backward and
forward by his arms until his grip relaxes in order to find his
weight which is reckoned at a pound for each swing 3; a
flower head of a southern African shrub (Protea cynaroides)
which when open is shaped like a pot and consists of an
involucre of showy bracts surrounding a head of small flowers